

205080" E32E400T



Application No. 10/043,763
Inventor(s): Janardhanan S. Ajit
Title: SUB-MICRON HIGH INPUT VOLTAGE
TOLERANT INPUT OUTPUT (I/O) CIRCUIT WHICH
ACCOMMODATES LARGE POWER SUPPLY
VARIATIONS

Sheet 1 of 23

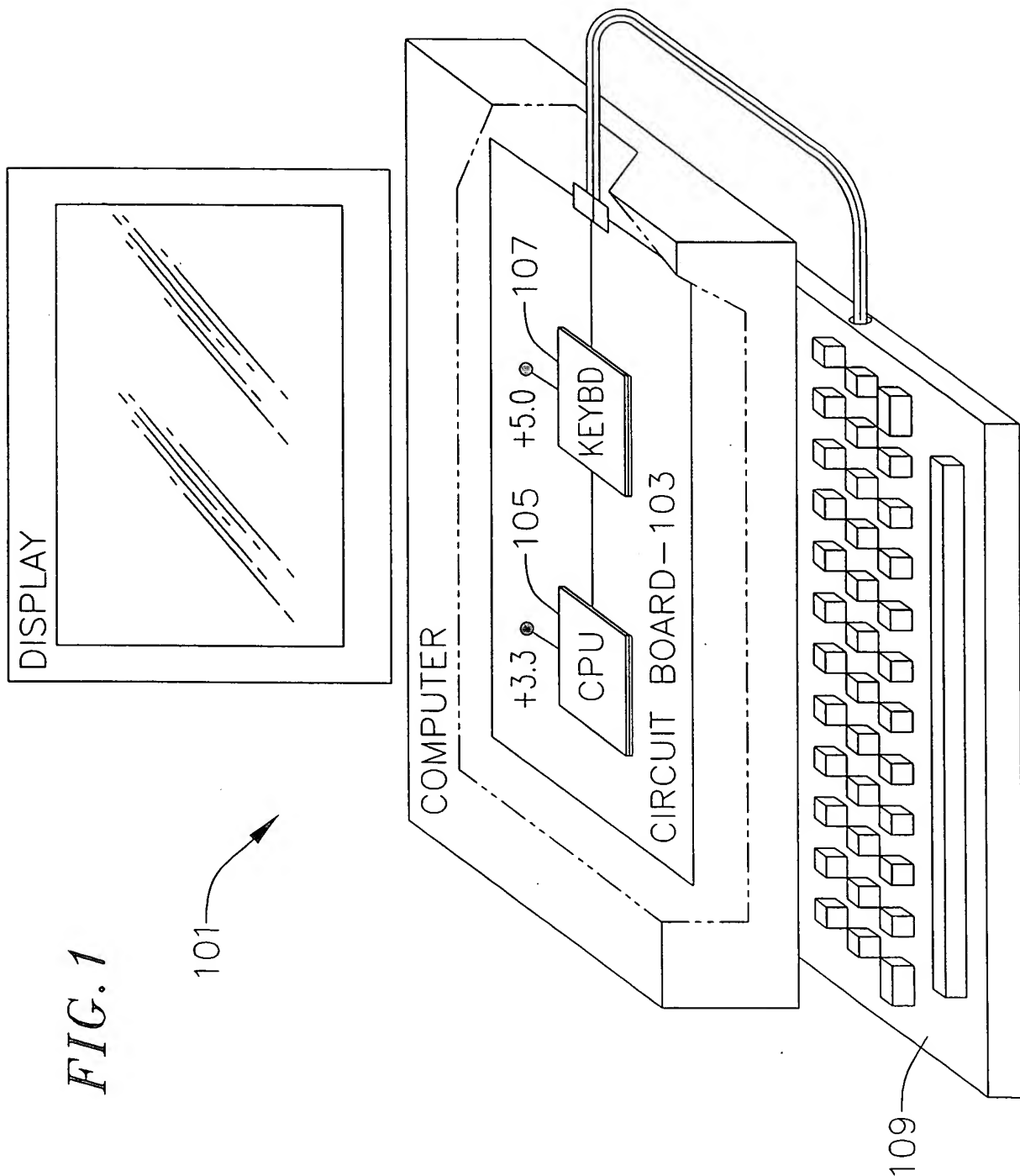
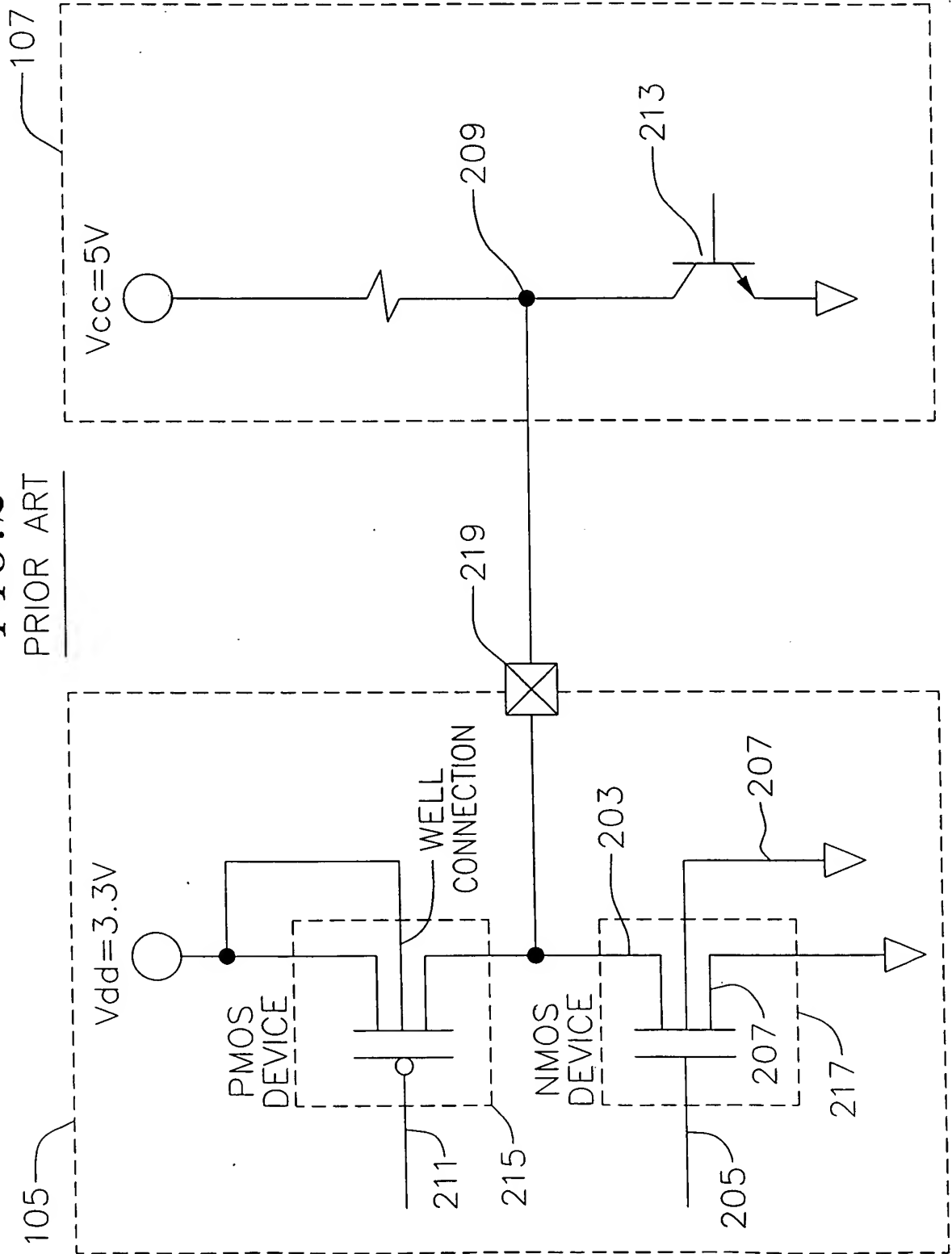




FIG. 2
PRIOR ART

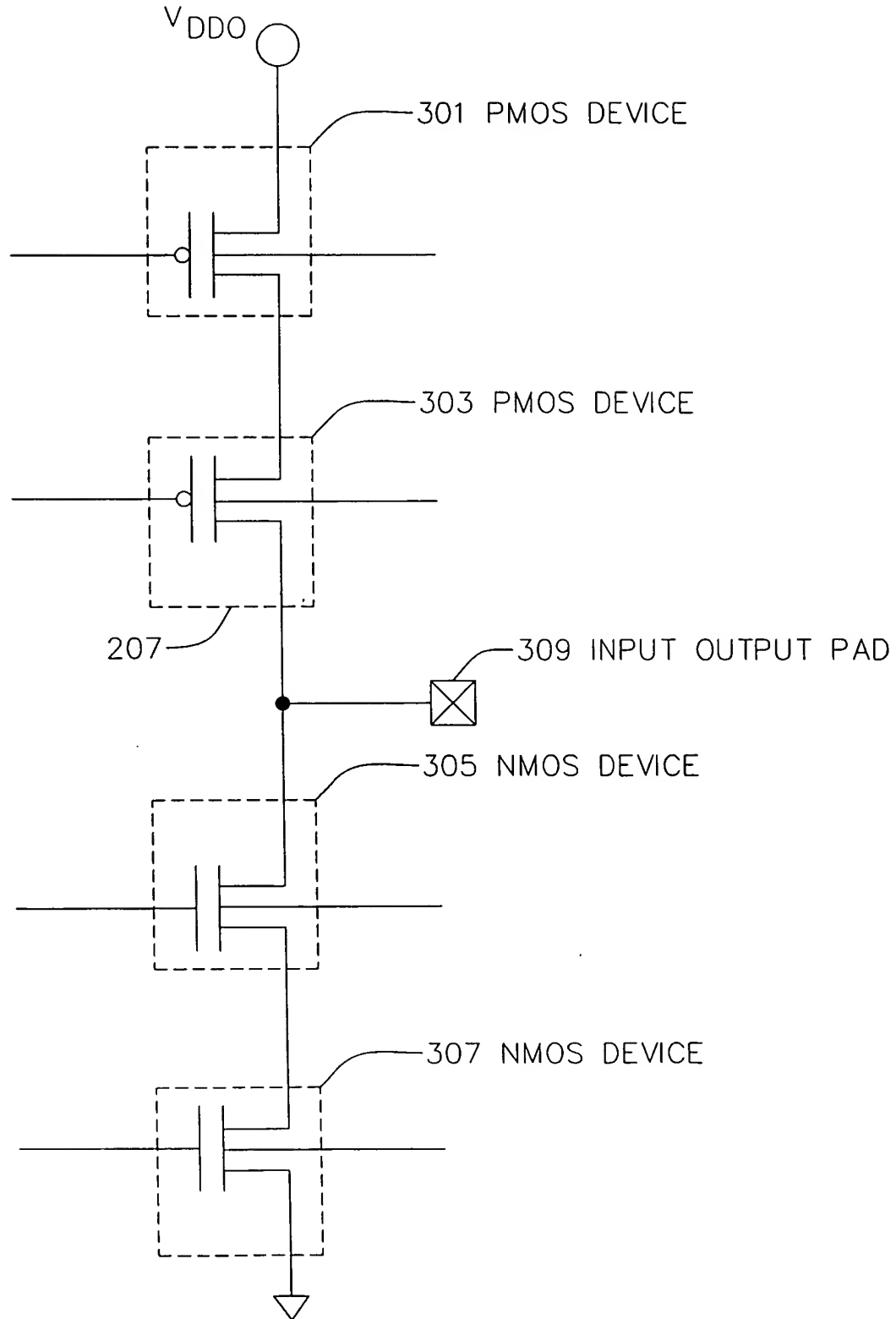




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Sheet 3 of 23

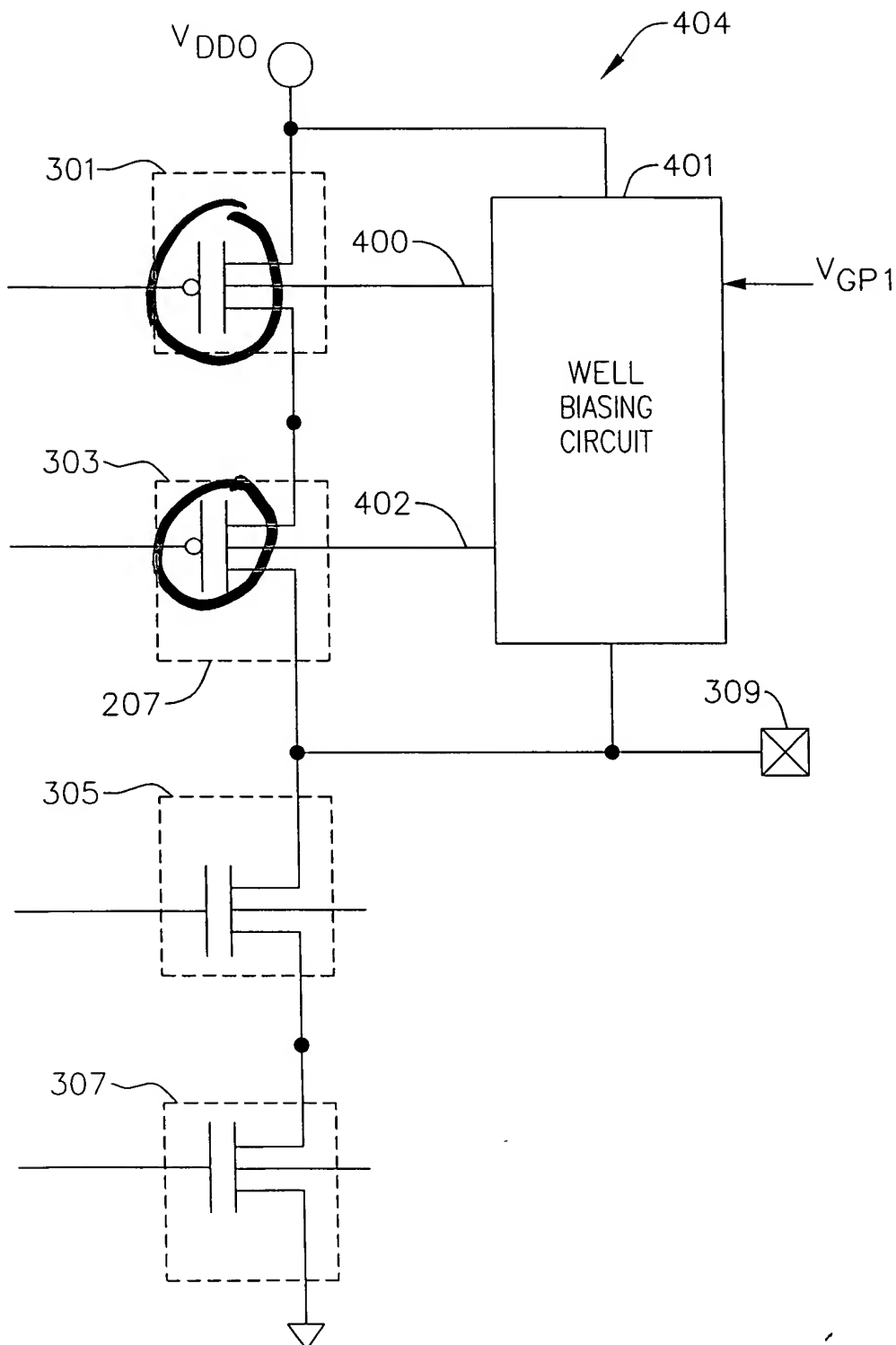
FIG. 3



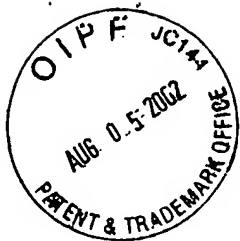
205080 E324001



FIG. 4



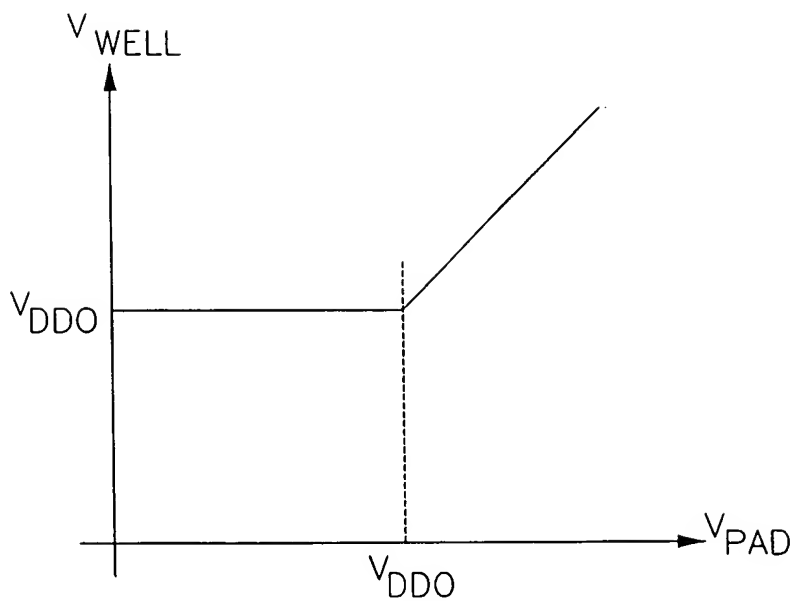
10043763.080502



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Sheet 5 of 23

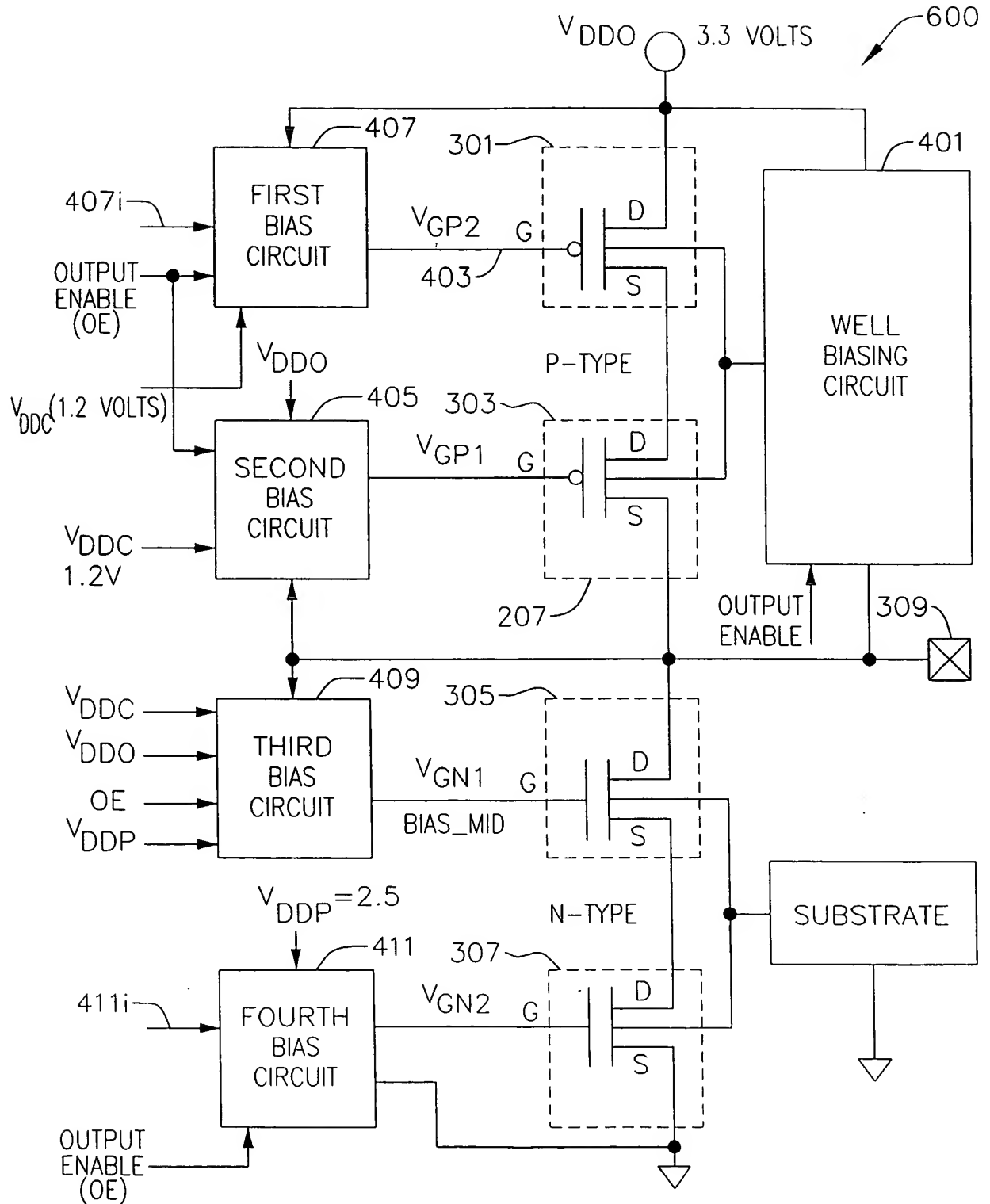
FIG. 5



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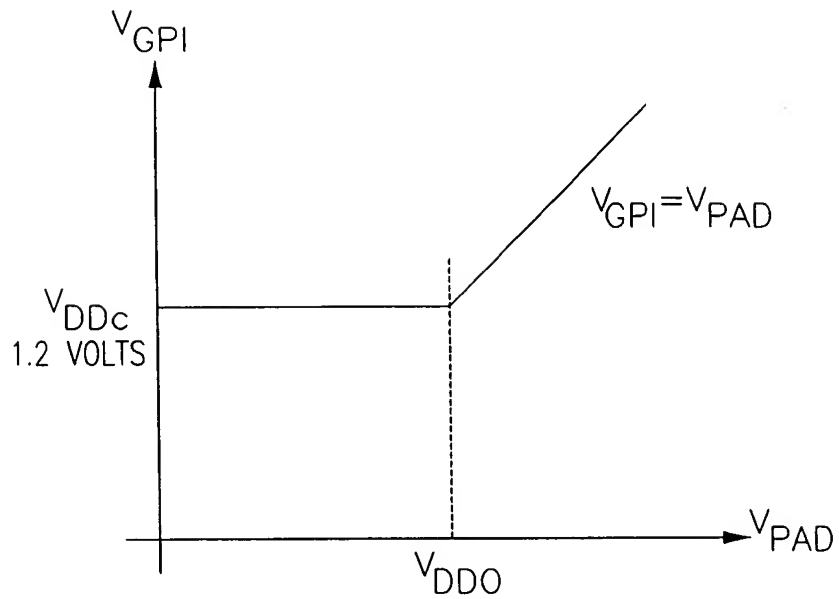
FIG. 6



205080 "E9400F



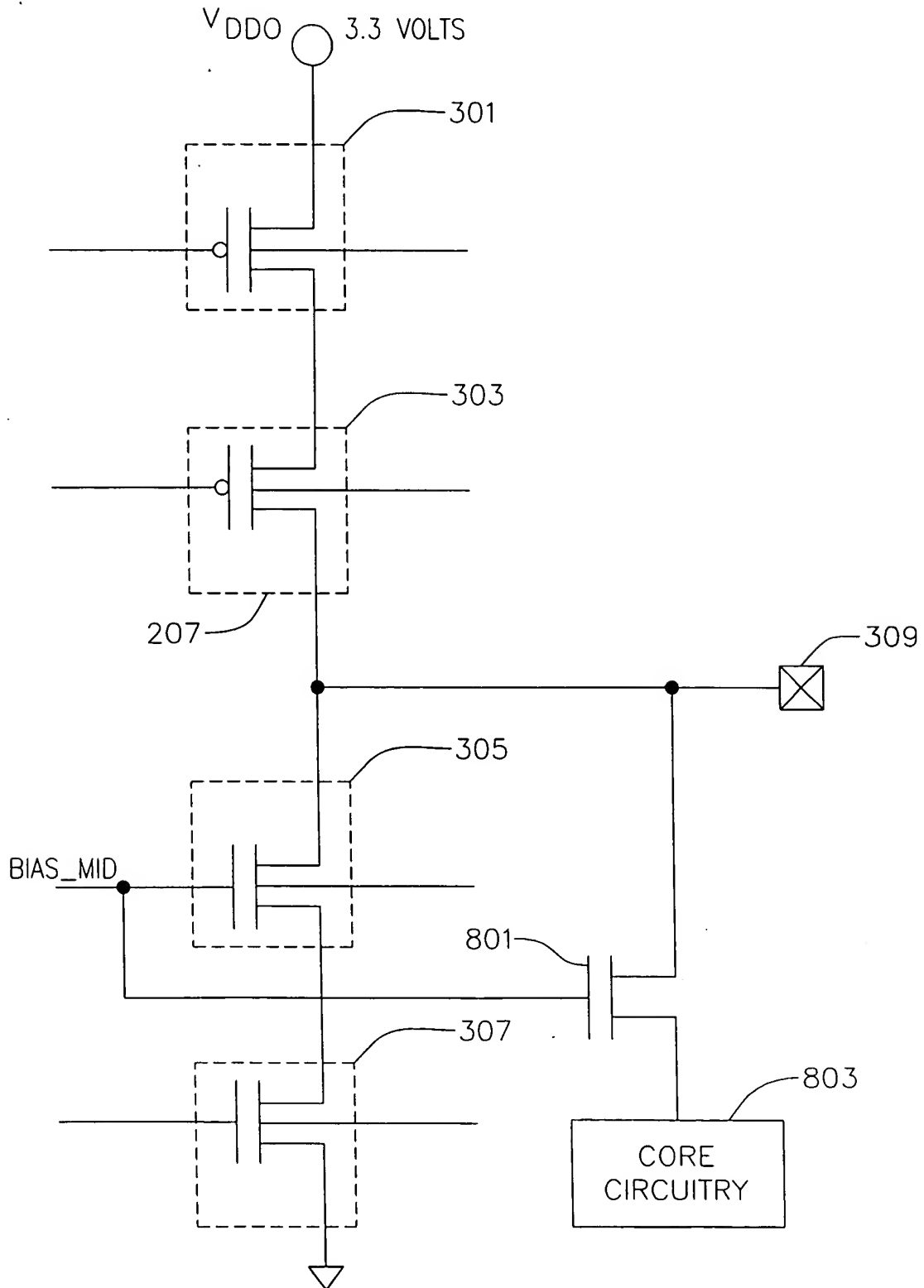
FIG. 7



205080" E92E400T



FIG. 8



2005080" 8374001

205080-E3/E400T



FIG. 9A

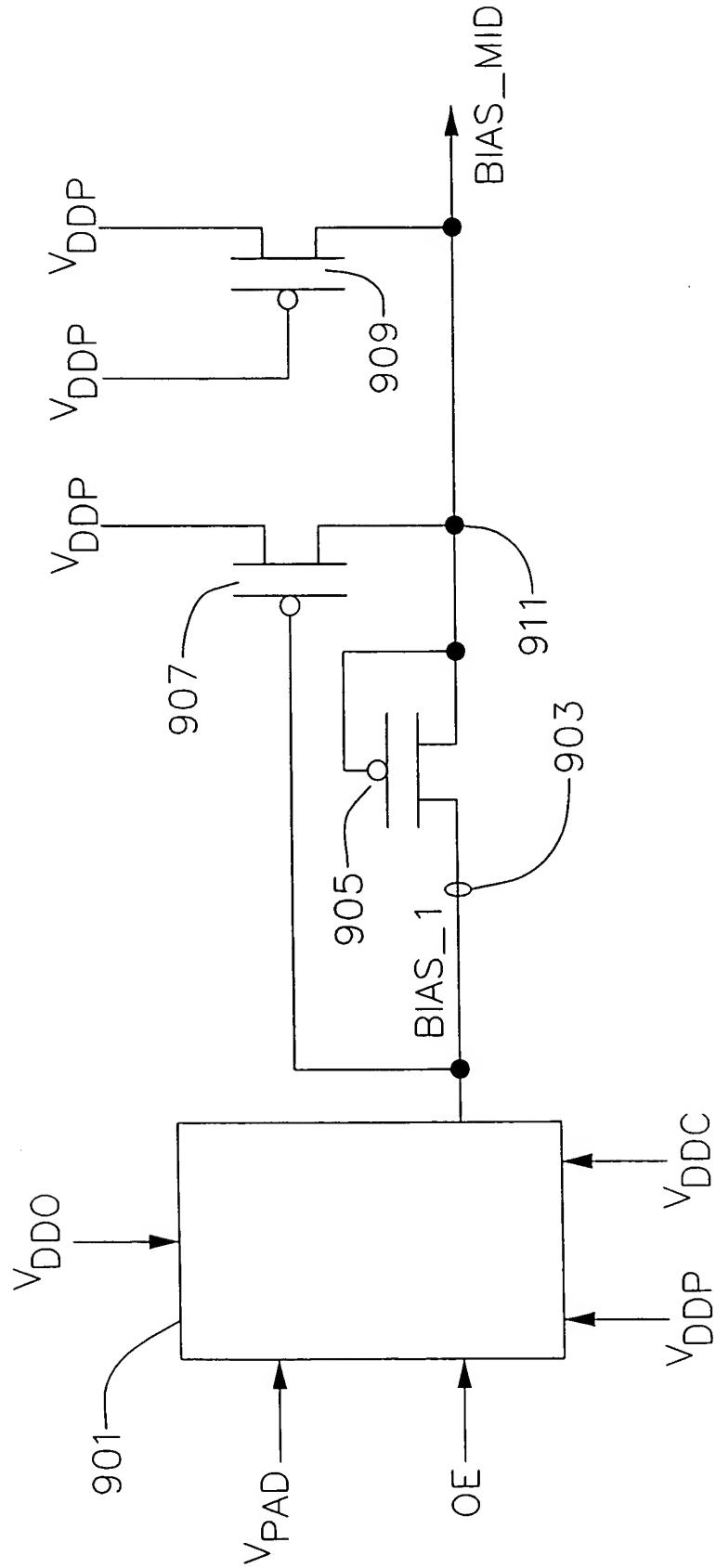
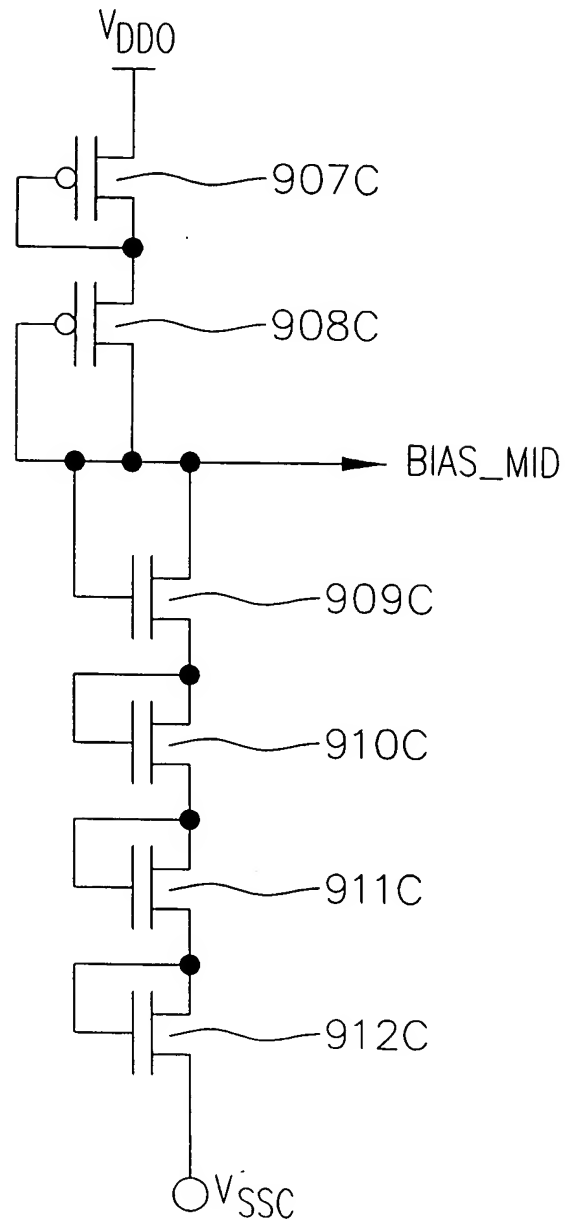




FIG. 9B

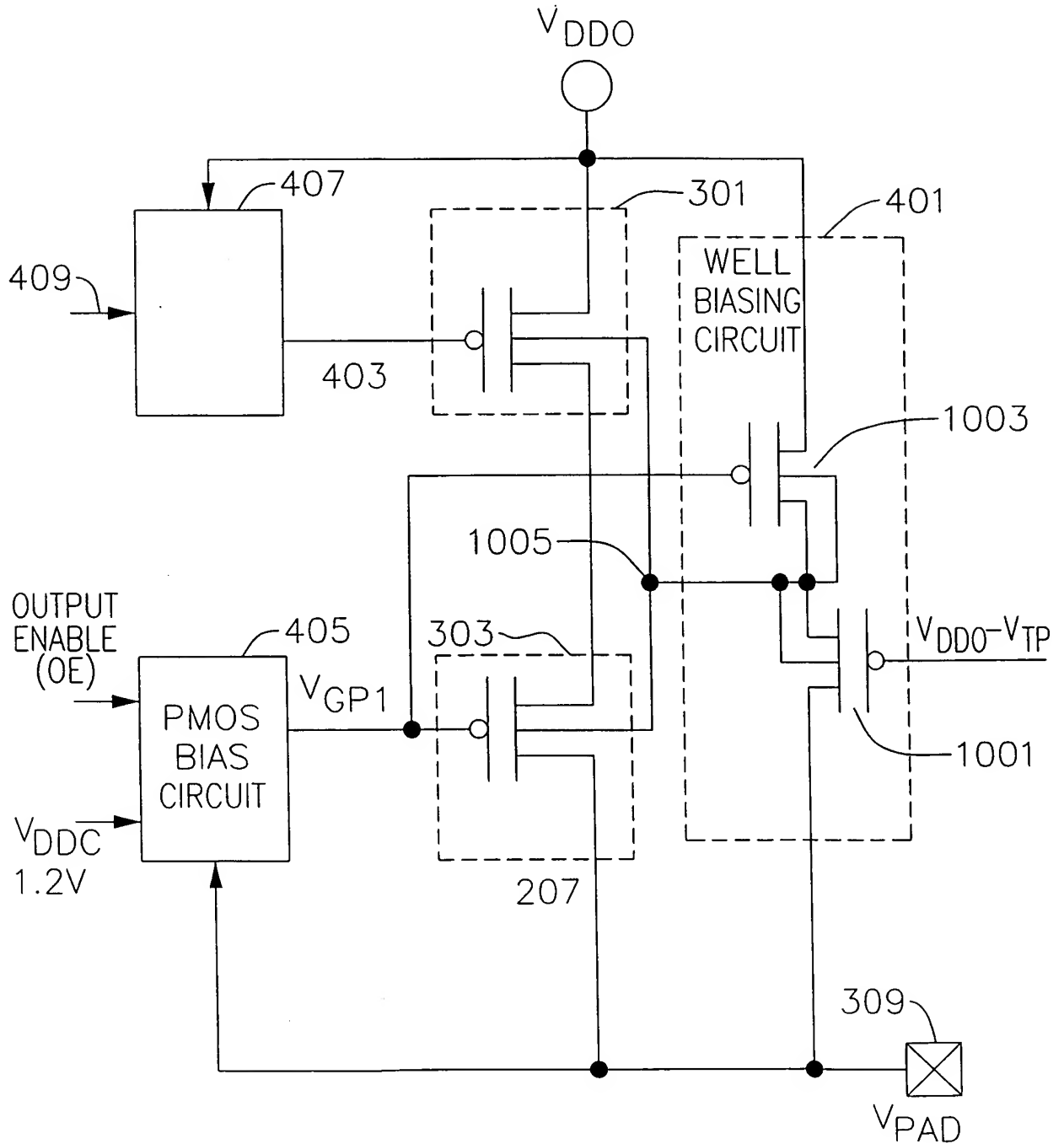


(ALTERNATELY V_{DDC} OR V_{DDP})

205080-E32E4007



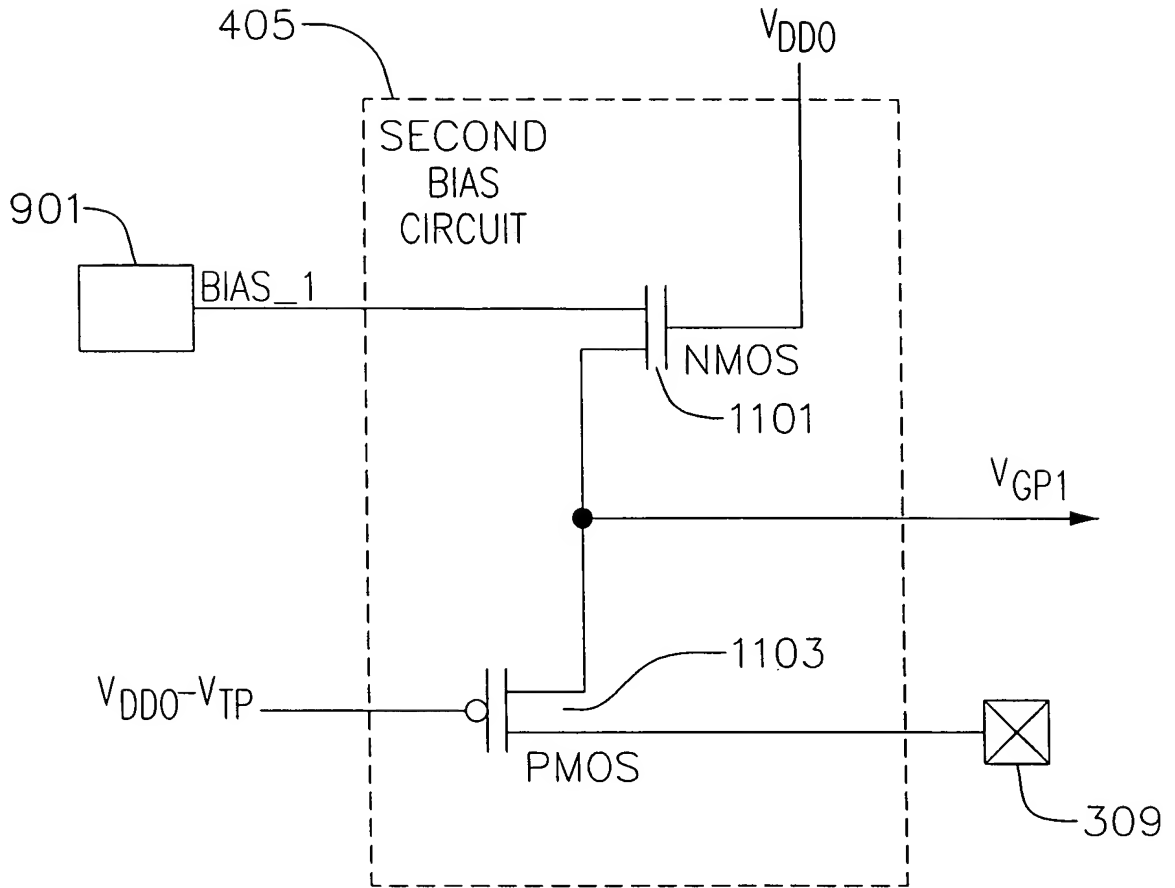
FIG. 10



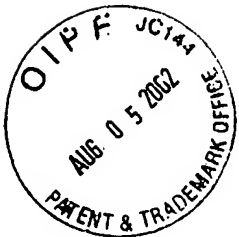
10043763-080502



FIG. 11A



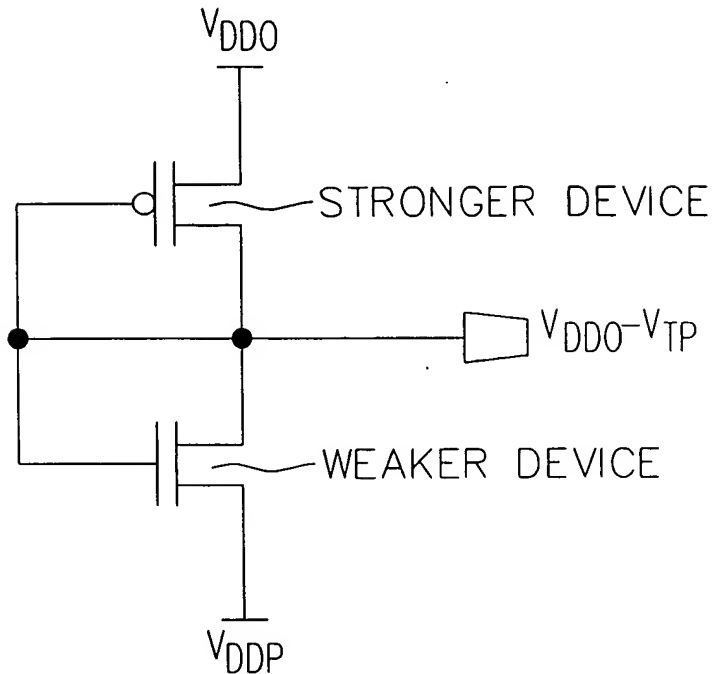
205080-E344001



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Sheet 13 of 23

FIG. 11B



205080 "E92E400F
10043763-080502

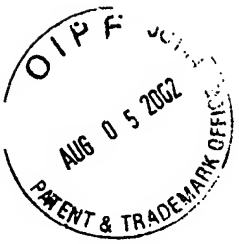
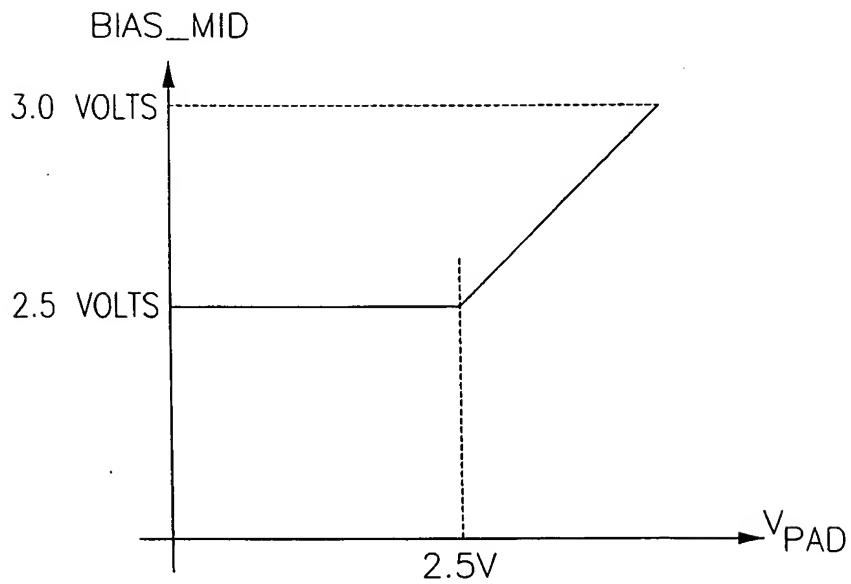


FIG. 11C



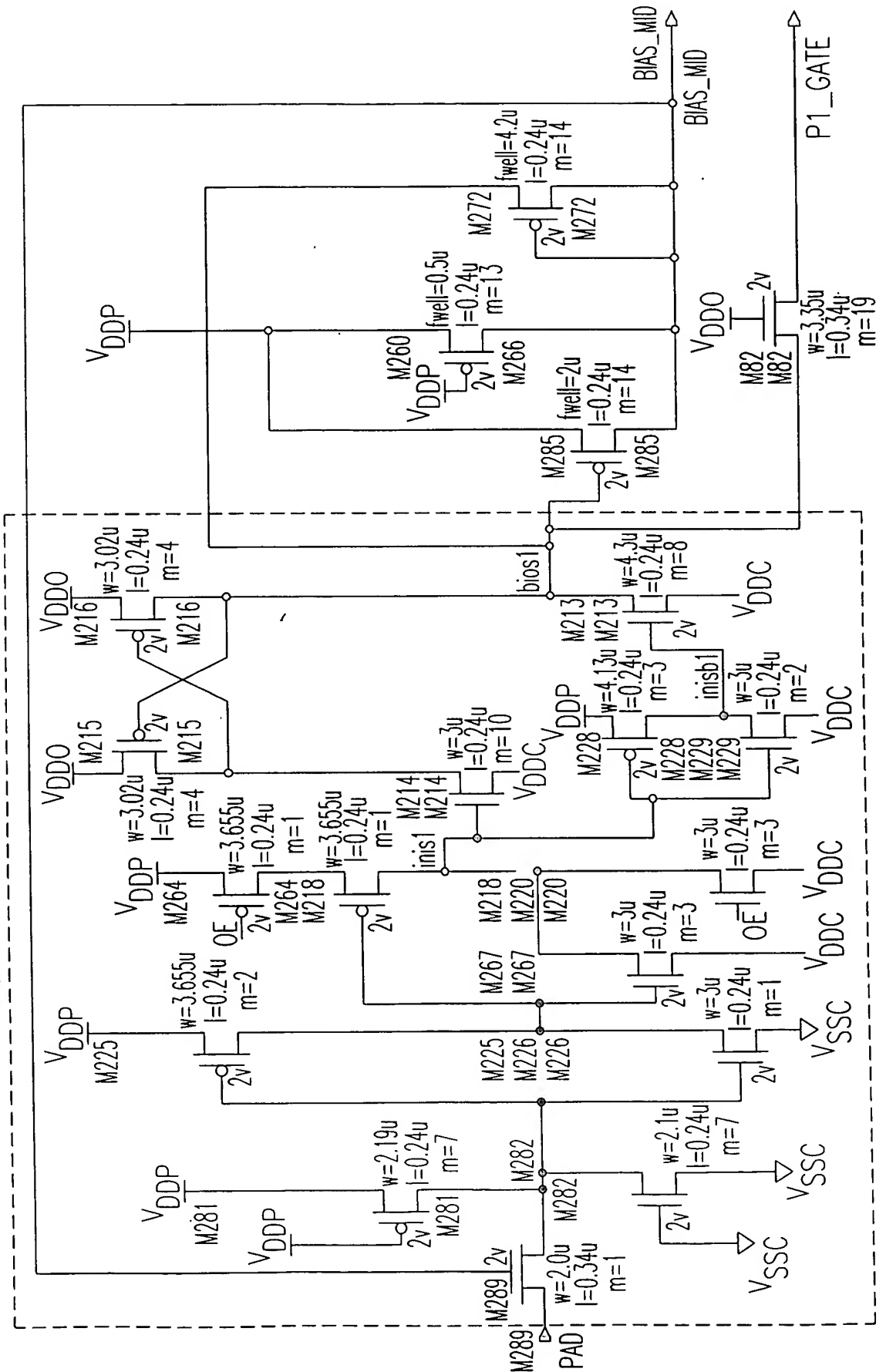
205080-294001

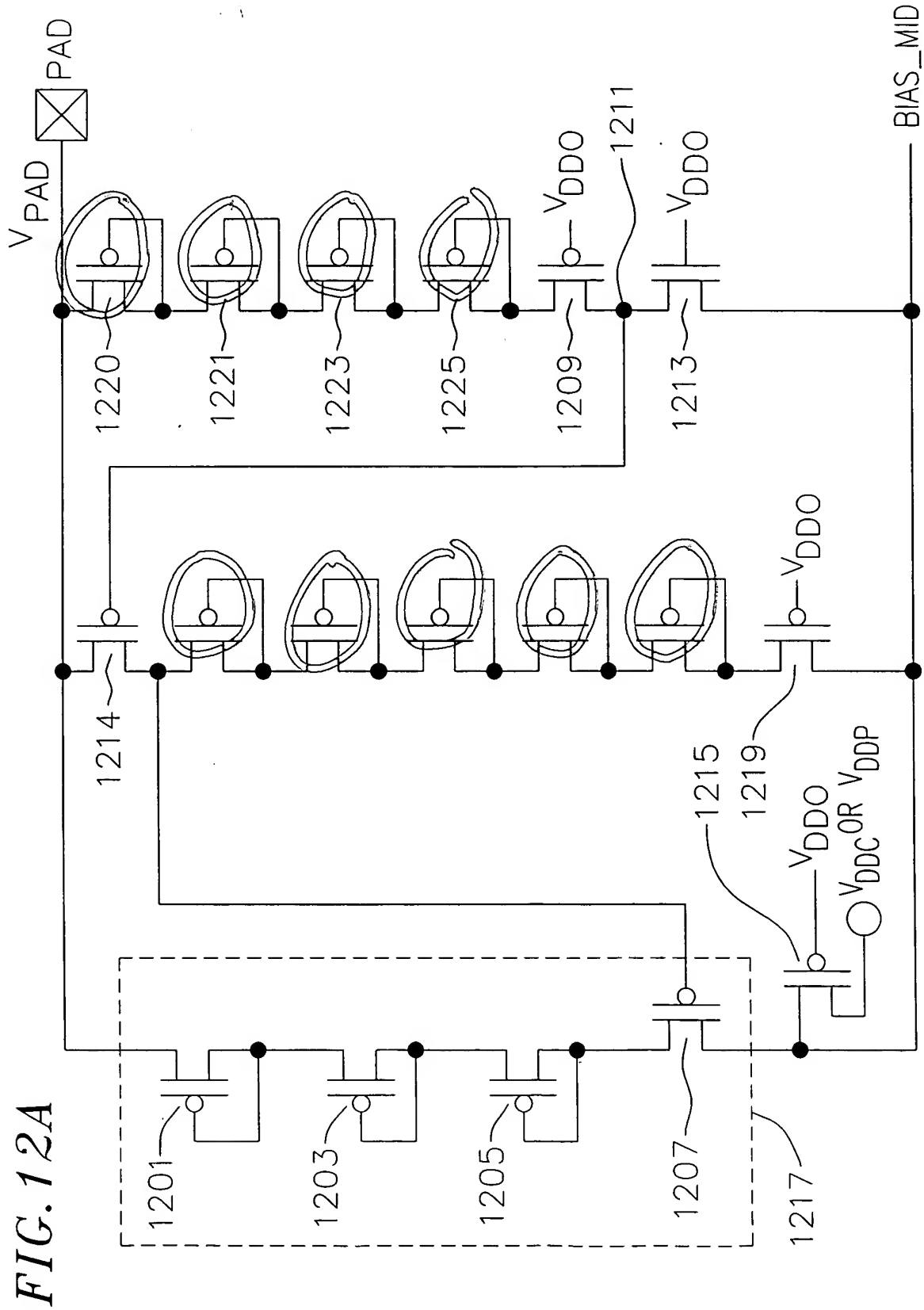


205080" E3/E400T

FIG. 11D

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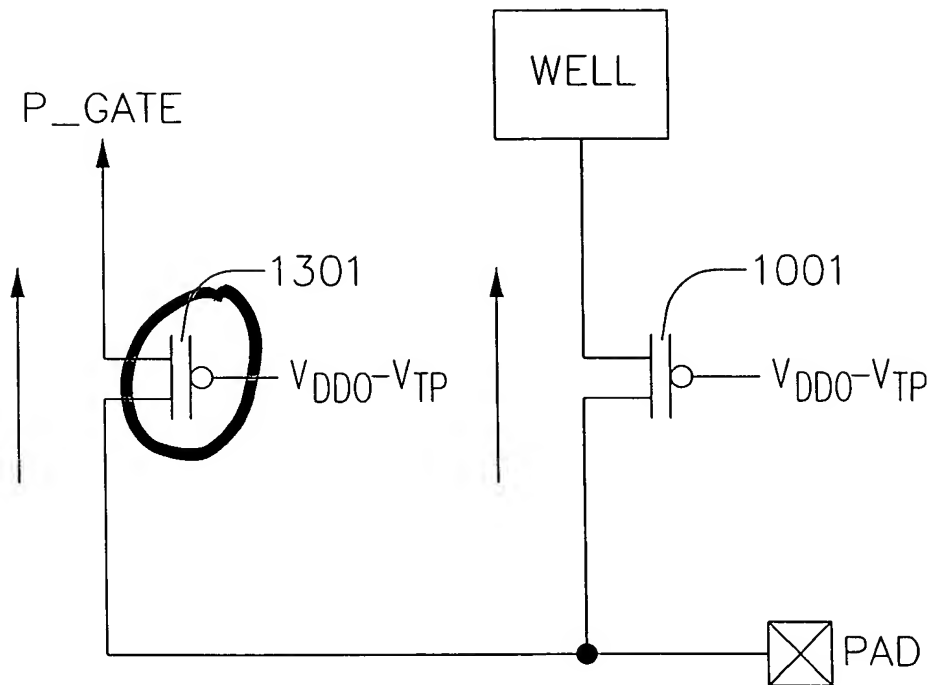
205080-EE-400T



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Sheet 18 of 23

FIG. 13



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FIG. 14

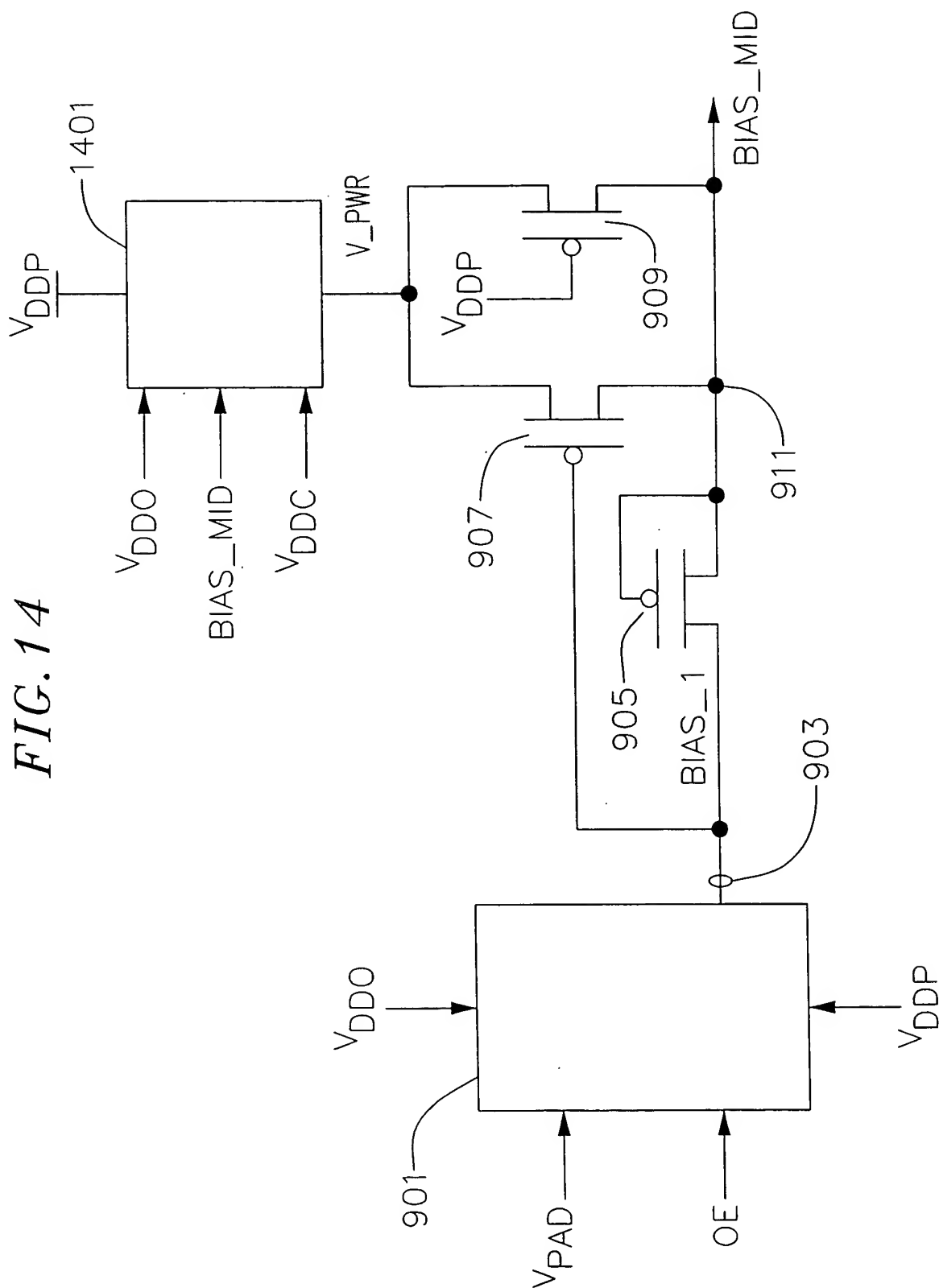
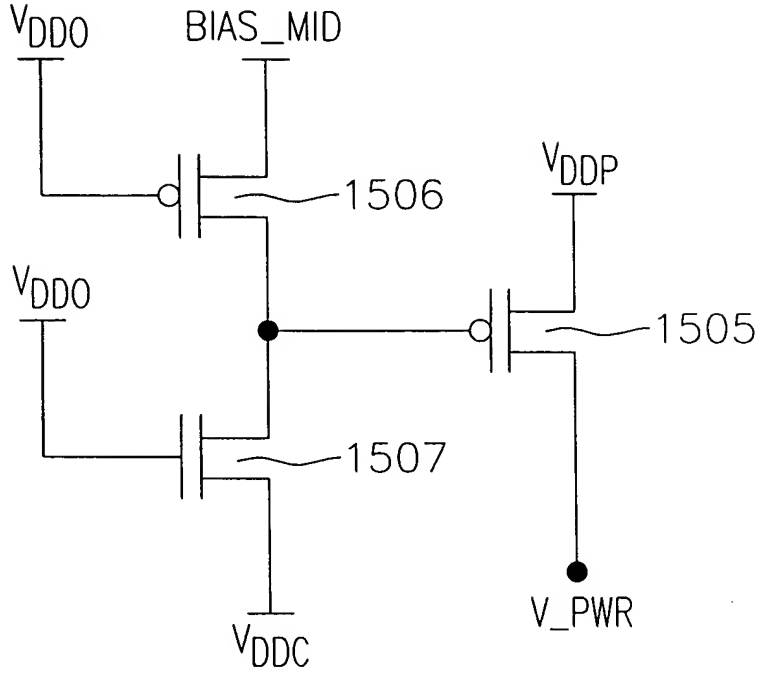




FIG. 15



205030-E92E400F

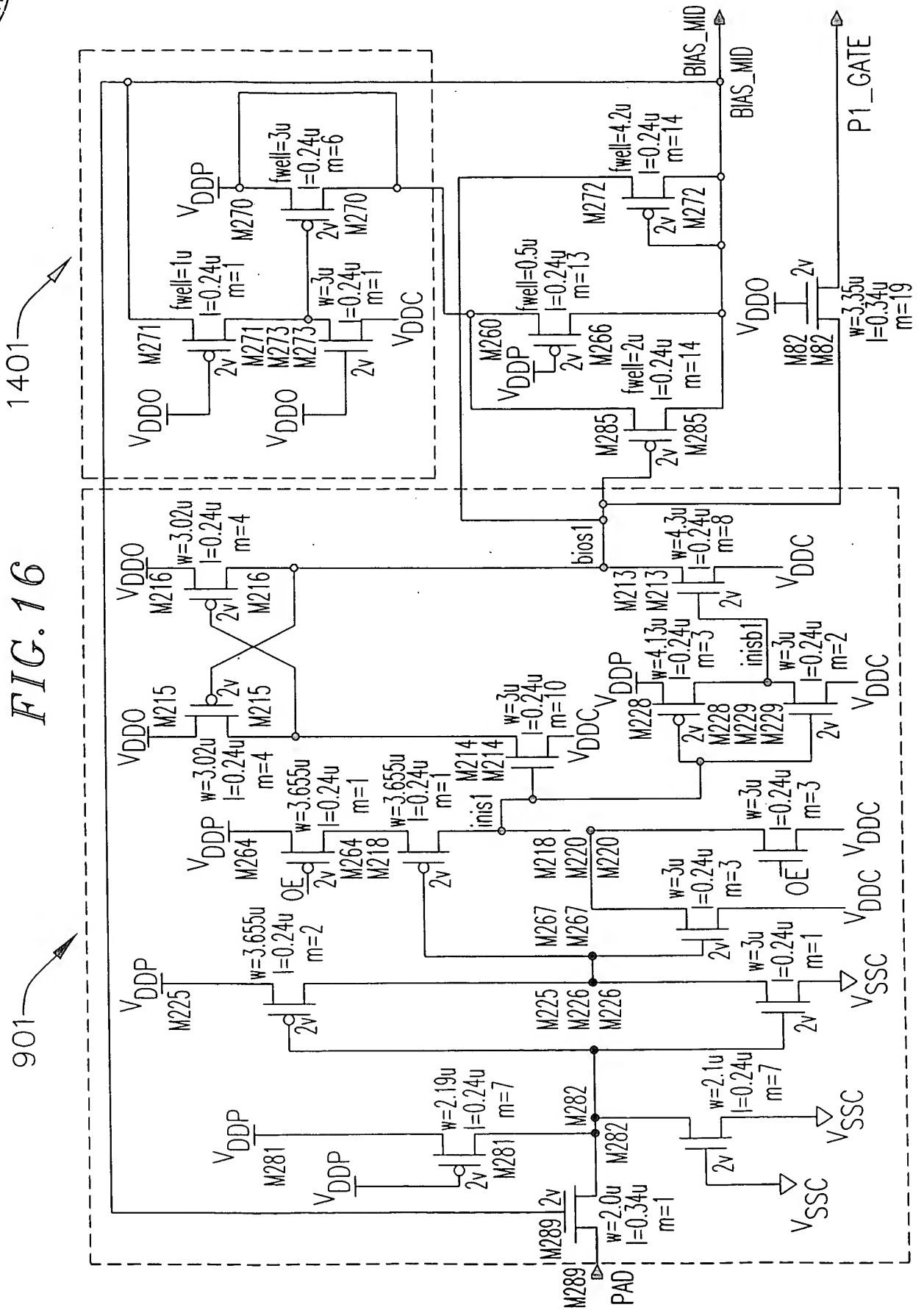
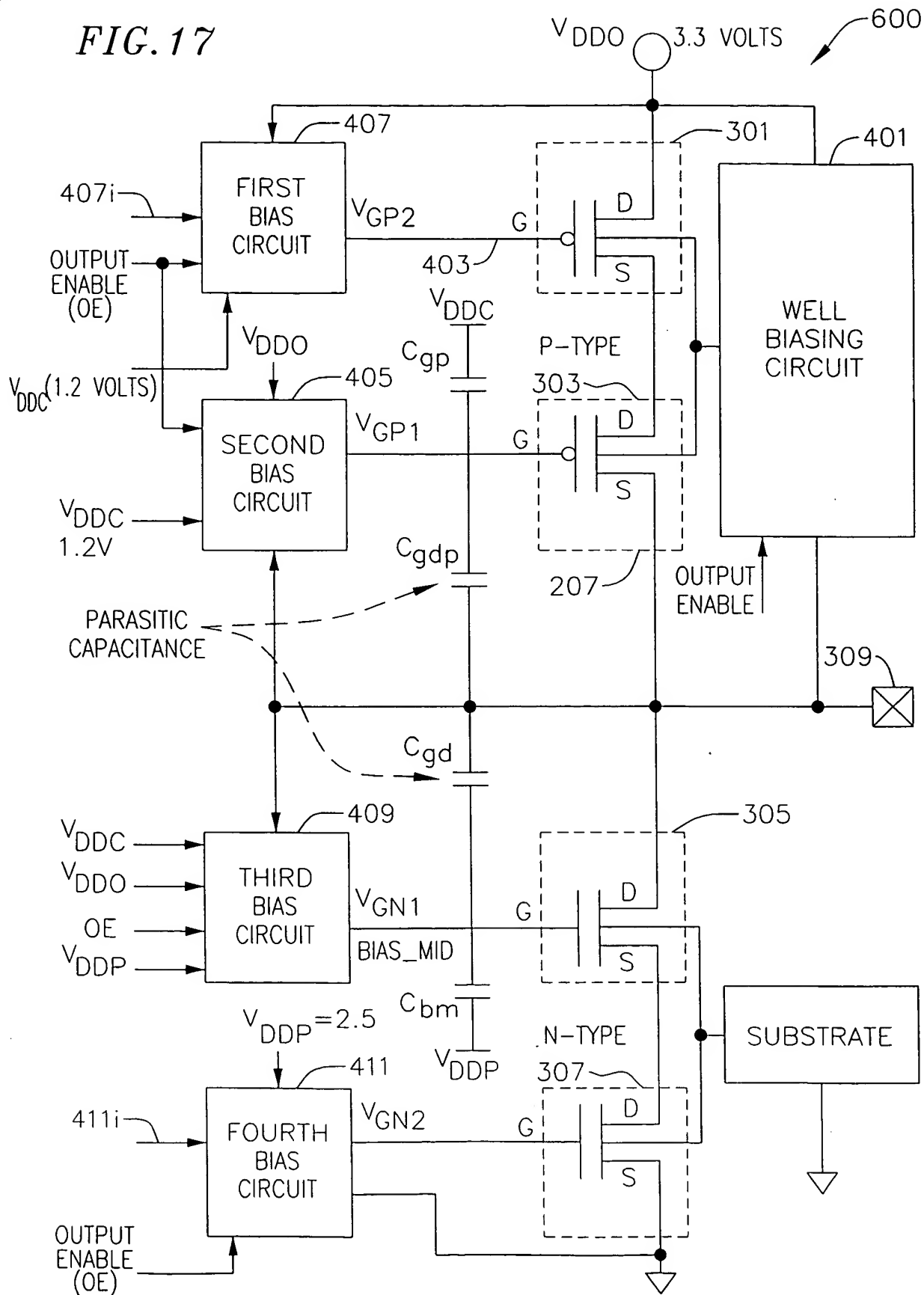
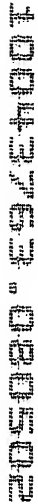




FIG. 17



205030-294007



The circuit diagram illustrates a pixel driver circuit. It features two pre-driver blocks: a PMOS pre-driver (407) and an NMOS pre-driver (411). The PMOS pre-driver (407) has inputs for DATA and OE, and is connected to VDDO and VDDC. The NMOS pre-driver (411) has inputs for DATA and OE, and is connected to VDDP and VSSC. The circuit includes several transistors: 1101 (PMOS), 1201 (PMOS), 1203 (PMOS), 1207 (PMOS), 1214 (PMOS), 1220 (PMOS), 1209 (PMOS), 1213 (PMOS), 909C (PMOS), 910C (PMOS), 911C (PMOS), and 912C (PMOS). Capacitors Cgp, Cgdp, and Cbm are also present. The circuit is connected to various voltage levels: VDDO, VDDC, VDDP, VSSC, VSSO, and WELL. A current source 1800 is connected to the output of the PMOS pre-driver (407) and the output of the NMOS pre-driver (411).